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IMPACT OF UPI TRANSITIONS ON INDIAN ECONOMY WITH SPECIAL REFERENCE TO KARNATAKA

***Dr. Rakesha H. K.**

Lecturer, Dept of Commerce.

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***Corresponding Author: Dr. Rakesha H. K.**
Lecturer, Dept of Commerce.
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ABSTRACT

The Unified Payments Interface (UPI) has emerged as a significant component of India's digital payment ecosystem and has transformed the way consumers, businesses and financial institutions conduct transactions. The present study examines the impact of UPI transactions on the Indian economy with special reference to Karnataka. The study analyses the growth and trends of UPI transactions during the period 2021–22 to 2025–26 and examines their contribution to financial inclusion, economic development, consumer transactions and business activities. The study is based primarily on secondary data collected from the Reserve Bank of India (RBI), National Payments Corporation of India (NPCI), Government of India and other reliable sources. Descriptive and analytical techniques such as percentage analysis, growth rate, trend analysis and appropriate statistical tools are used to examine the data. The findings indicate that UPI transactions have increased significantly in both volume and value, demonstrating the growing adoption of digital payments across India. The expansion of UPI has improved transaction efficiency, reduced dependence on cash, supported financial inclusion and created opportunities for MSMEs and small businesses. Karnataka, with its strong digital infrastructure, banking network, technology sector and entrepreneurial ecosystem, has significant potential to benefit from the continued growth of UPI. However, challenges such as cyber fraud, digital illiteracy, connectivity issues, transaction failures and privacy concerns remain significant. The study concludes that UPI has evolved beyond a payment mechanism into an important component of India's digital economic infrastructure. Strengthening cybersecurity, digital literacy, infrastructure and inclusive payment services will be essential for maximising the economic benefits of UPI in India, particularly in Karnataka.

KEYWORDS: UPI, Digital Payments, Indian Economy, Karnataka, Financial Inclusion, MSMEs, Digital Economy, NPCI.

INTRODUCTION

The rapid transformation of India's financial system through digital technologies has significantly changed the way individuals, businesses and institutions conduct financial transactions. Among the various digital payment innovations, the Unified Payments Interface (UPI) has emerged as one of the most important developments in India's digital economy. Introduced in April 2016 by the National Payments Corporation of India (NPCI) under the regulatory framework of the Reserve Bank of India (RBI), UPI enables instant, convenient and interoperable bank-to-bank payments through mobile devices. Over the past decade, UPI has moved from being a new payment facility to becoming a major component of India's everyday economic activity.

The growth of UPI has been remarkable in terms of both transaction volume and value. UPI transactions increased from about 2 crore transactions in FY 2016–17 to more than 24,162 crore transactions in FY 2025–26, representing an almost 12,000-fold increase. In FY 2025–26, the value of UPI transactions exceeded ₹314 lakh crore, demonstrating the scale at which digital payments have become integrated into the Indian economy. Furthermore, UPI accounted for approximately 81% of retail digital payment transactions in FY 2024–25, establishing its position as the world's largest real-time retail payment system. The expansion of UPI has important economic implications. It has reduced dependence on physical cash, lowered transaction time and facilitated faster movement of money between consumers, merchants and financial institutions. Small-value transactions such as grocery purchases, transportation, food services, utility payments and payments to local businesses can now be completed instantly using QR codes or mobile applications. Consequently, UPI has contributed to the formalisation of economic activities, improved transaction transparency and encouraged the adoption of digital financial services among households and businesses.

UPI has also become an important instrument for promoting financial inclusion. Individuals who previously depended heavily on cash-based transactions can access digital payment services through bank accounts and mobile phones. The widespread availability of QR-code-based payments has particularly benefited small retailers, street vendors, micro-enterprises and self-employed individuals by enabling them to accept digital payments without requiring sophisticated payment infrastructure. In this context, UPI has the potential to strengthen the participation of smaller economic units in the formal digital economy. The impact of UPI is particularly relevant to Karnataka, one of India's leading states in information technology, banking, entrepreneurship and digital innovation. Karnataka has a strong technological ecosystem and a large population of digitally active consumers and businesses. According to NPCI's state-wise statistics for August 2025, Karnataka recorded approximately 1,077.76 million UPI transactions valued at ₹1,42,488.77 crore, contributing 5.39% of transaction volume and 5.73% of transaction value among states and union territories. The state's combination of urban centres, technology-based businesses, financial institutions, startups, MSMEs and expanding digital infrastructure makes it an important setting for examining the economic consequences of UPI adoption.

At the macroeconomic level, the increasing use of UPI can influence consumption, business transactions, financial intermediation, tax compliance, entrepreneurship and the efficiency of payment systems. At the microeconomic level, it can affect consumer payment behaviour, merchant sales, transaction costs, financial accessibility and the operations of small and medium-sized enterprises. However, the rapid expansion of UPI also raises issues relating to cybersecurity, digital literacy, fraud, privacy, technological dependence, internet connectivity and the digital divide. Therefore, assessing the impact of UPI requires consideration of both its economic benefits and the challenges associated with widespread digital payment adoption.

UPI Transactions in India, April 2021–March 2026

Sl. No.	Financial Year	Period	UPI Transaction Volume (Crore)	UPI Transaction Value (₹ Lakh Crore)
1	2021–22	April 2021 – March 2022	4,595.61	₹84.16
2	2022–23	April 2022 – March 2023	8,371.44	₹139.15
3	2023–24	April 2023 – March 2024	13,112.95	₹199.95
4	2024–25	April 2024 – March 2025	18,586.60	₹260.56
5	2025–26	April 2025 – March 2026	24,161.69	₹314.23

Source: National Payments Corporation of India (NPCI), UPI Product Statistics; Government of India, Ministry of Finance.

Recent Changes in UPI Transaction under the law

Sl. No.	Recent regulatory change	Earlier provision	Recent provision / change	Economic significance
1	Higher limit for tax payments	₹1 lakh per transaction	₹5 lakh per transaction	Facilitates high-value tax payments through UPI
2	Higher limits for selected merchant categories	Generally lower limits	NPCI enhanced limits for specified categories, including tax-related payments, up to ₹5 lakh	Encourages UPI for larger-value transactions
3	Delegated Payments	Separate bank-linked UPI account generally required	Primary user can permit a secondary user to make UPI payments from the primary user's account, subject to prescribed controls	Improves financial inclusion and family/business payment access
4	UPI Credit Line	Primarily bank-account based	UPI can be linked with pre-sanctioned credit lines of banks, subject to RBI/NPCI rules	Expands access to formal digital credit
5	UPI Lite	Low-value transactions mainly through regular UPI	Enhanced low-value payment mechanism without requiring real-time core-banking processing for every transaction	Faster small-value payments and improved convenience
6	UPI Tap & Pay	Scan QR / mobile number / UPI ID	NFC-based Tap & Pay functionality introduced	Makes contactless payments easier
7	UPI Reserve Pay	Payment generally debited directly when transaction occurs	Amount can be blocked/reserved and subsequently debited through permitted transactions; current framework allows a block of up to ₹10,000 for up to 90 days for eligible use cases	Useful for e-commerce, food delivery, quick commerce and similar services
8	Security and data protection	Existing security requirements	NPCI continues strengthening user-information protection, fraud controls and compliance requirements	Improves consumer confidence in digital payments

Review of literature

1. Madan (2025)[1]: Madan examined the **impact of UPI on financial inclusion and the digital economy in India** using secondary time-series data from RBI and NPCI for FY 2016–17 to FY 2023–24. The study found that the rapid expansion of UPI has contributed significantly to the development of India's digital payment ecosystem and financial inclusion.

The study provides useful evidence for understanding the relationship between increasing UPI transaction volumes and broader digital-economic development.

2. Sawhney (2025)[2]: Sawhney studied **"From Cash to Clicks: The Transformative Impact of UPI on Consumer Behaviour and Financial Inclusion in India."** The study used a literature review and primary data collected from 140 respondents. It examined users' perceptions regarding the convenience, efficiency and security of UPI compared with traditional cash transactions. The study concluded that UPI has substantially influenced consumer payment behaviour and facilitated the movement towards digital financial services.

3. Naik and Shetty (2025)[3]: Naik and Shetty investigated the **impact of UPI digital payment platforms on the financial inclusion of street vendors in urban India** using a quantitative survey of 300 vendors. Chi-square, ANOVA and paired *t*-tests were applied. The study found widespread UPI adoption among street vendors; however, UPI usage did not automatically result in significant improvements in savings behaviour or digital literacy. The authors therefore highlighted the distinction between **adoption of digital payments and meaningful financial inclusion**, particularly where digital skills and infrastructure remain limited.

4. Dev, Gupta, Dharmavaram and Kumar (2024)[4]: The researchers examined the influence of UPI on **consumer spending behaviour** through a survey of 276 respondents and follow-up interviews with 20 participants. Approximately 75% of respondents reported increased spending after adopting UPI. The study suggested that the convenience and less tangible nature of digital payments may influence consumers' psychological perception of spending. This finding is relevant to the present study because changes in consumer spending behaviour can influence overall consumption and economic activity.

5. Sree Lakshmi (2025)[5]: Sree Lakshmi examined the **rise of digital payments in India with particular emphasis on consumer behaviour and financial inclusion**. The study discussed UPI as a major driver of India's digital payment transformation and highlighted the contribution of digital infrastructure, Digital India and financial inclusion initiatives. It also identified digital literacy and accessibility as important factors influencing the adoption of digital payments.

Department of Financial Services (2026)[6]: The Government of India's recent Socio-Economic Impact Analysis of the Incentive Scheme for Promotion of RuPay Debit Card and low-value BHIM-UPI transactions provides important empirical evidence. The field survey conducted during July–August 2025 found that UPI was the most preferred transaction mode among surveyed users, accounting for 57%, compared with 38% for cash. Further, 65% of UPI users reported making multiple digital transactions per day, while 90% stated that their confidence in digital payments increased after using UPI and RuPay. The report therefore provides strong evidence of behavioural changes and increasing acceptance of digital payments.

Research Gap

Existing studies on Unified Payments Interface (UPI) have mainly focused on digital payment adoption, consumer behaviour, financial inclusion and digital literacy, with relatively limited attention to its broader economic impact. There is inadequate research examining the relationship between the rapid growth of UPI transaction volume and value and economic development in India. Limited studies have analysed the recent period from 2021–22 to 2025–26 using systematic transaction data. Further, the impact of UPI on business efficiency, MSMEs, consumer spending, transaction costs and formalisation of economic activities requires greater investigation. Despite Karnataka being a leading state in information technology, banking, startups and digital infrastructure, state-specific research on the economic impact of UPI remains limited. The implications of recent changes in UPI rules, transaction limits, digital credit and security regulations have also received insufficient attention. Moreover, few studies combine secondary UPI transaction statistics with primary evidence from consumers and businesses. Therefore, the present study attempts to fill these gaps by examining the impact of UPI transactions on the Indian economy with special reference to Karnataka.

Statement of the Problem

The rapid expansion of the Unified Payments Interface (UPI) has transformed the payment system in India by enabling fast, convenient, interoperable and largely seamless digital transactions among consumers, businesses and financial institutions. Although UPI transactions have increased substantially in both volume and value during recent years, the extent to which this growth has contributed to economic development, financial inclusion, consumer spending, business efficiency, formalisation of economic activities and reduction in transaction costs is not sufficiently understood. Karnataka, being one of India's leading states in information technology, banking, entrepreneurship, MSMEs and digital infrastructure, has experienced significant adoption of UPI; however, state-specific empirical evidence on its broader economic impact remains limited. Further, recent changes in UPI rules and regulations, transaction limits, digital credit facilities, security measures and other technological innovations have created new opportunities as well as challenges for users and businesses. Therefore, the problem addressed by the present study is to assess the impact of increasing UPI transactions on the Indian economy, with special reference to Karnataka, and to examine whether the growth of UPI has significantly contributed to financial inclusion, economic efficiency, business development and digital transformation while identifying the major challenges associated with its adoption and use.

Research Objectives

- To analyse the growth and trends of UPI transactions in India during 2021–22 to 2025–26.
- To examine the impact of UPI transactions on financial inclusion and economic development in India.
- To identify the major challenges and opportunities associated with the increasing adoption of UPI in Karnataka.

Research Hypothesis

H_{01}: There is no significant relationship between the growth of UPI transactions and economic development in India.

Scope of the Study

he presents study focuses on examining the impact of UPI transactions on the Indian economy with special reference to Karnataka. The study covers the growth and trends of UPI transaction volume and value during the period 2021–22 to 2025–26. It examines the role of UPI in financial inclusion, consumer spending, transaction efficiency, business activities, MSME development and the formalisation of economic transactions. The study also considers the recent changes in UPI rules, regulations, transaction limits, security measures and digital payment facilities. Primary data may be collected from UPI users, consumers, merchants and MSMEs in Karnataka, while secondary data are obtained from RBI, NPCI, Government of India and other reliable sources. Geographically, the study gives particular emphasis to Karnataka while relating the findings to the broader Indian economy. The study aims to identify the economic benefits, opportunities and challenges associated with the increasing adoption of UPI and provide useful insights for policymakers, financial institutions, businesses and digital payment users.

Research Design

The present study adopts a descriptive and analytical research design to examine the impact of UPI transactions on the Indian economy with special reference to Karnataka. The study is based entirely on secondary data collected from reliable and authentic sources such as the Reserve Bank of India (RBI), National Payments Corporation of India (NPCI), Ministry of Finance, Government of India, and relevant government reports, journals and research publications. The study covers the period from April 2021 to March 2026 (2021–22 to 2025–26). Data relating to UPI transaction volume, transaction value, growth rate and other relevant economic indicators are collected and systematically analysed. Descriptive statistical tools such as percentages, averages, growth rates and trend analysis are used to examine the development of UPI transactions, while appropriate statistical techniques may be applied to assess their relationship with selected economic indicators. The study also reviews recent changes in UPI rules, regulations, transaction limits and digital payment facilities to understand their implications for the Indian economy and Karnataka. The findings are interpreted to identify the contribution, opportunities and challenges of UPI in promoting financial inclusion, digitalisation, business efficiency and economic development.

Data Collection

Objective: *To analyse the growth and trends of UPI transactions in India during 2021–22 to 2025–26.*

NPCI/RBI-based secondary data can be used. The period is presented on a financial-year basis (**April–March**) and the monetary figures are in **Indian Rupees**.

Financial Year	Period	UPI Transaction Volume (Crore)	UPI Transaction Value (₹ Lakh Crore)	Volume Growth (%)	Value Growth (%)
2021–22	Apr 2021–Mar 2022	4,595.61	₹84.16	—	—
2022–23	Apr 2022–Mar 2023	8,371.44	₹139.15	82.15	65.32
2023–24	Apr 2023–Mar 2024	13,112.95	₹199.95	56.52	43.71
2024–25	Apr 2024–Mar 2025	18,586.60	₹260.56	41.75	30.31
2025–26	Apr 2025–Mar 2026	24,161.69	₹314.23	29.99	20.60

Source: National Payments Corporation of India (NPCI), UPI Product Statistics; Reserve Bank of India (RBI); Government of India.

The secondary data clearly demonstrate that UPI has experienced sustained growth in both transaction volume and monetary value between 2021–22 and 2025–26. The more than five-fold increase in transaction volume indicates widespread adoption of UPI among consumers, merchants and businesses. The continuous increase in transaction value further suggests that UPI is increasingly being used not only for small-value retail payments but also for a broader range of economic transactions. Therefore, the trend supports the importance of examining UPI as a significant component of India's digital economy.

Objective 2: *To examine the impact of UPI transactions on financial inclusion and economic development in India.*

Table: UPI, Financial Inclusion and Economic Development Indicators. (in Crore)

Year	UPI Transaction Value	Bank Accounts under PMJDY	Digital Payment Transactions	UPI Users/Adoption	Financial Inclusion Index*
2021–22	₹84.16	44.05	7,422.10	Increasing	56.4
2022–23	₹139.15	48.65	11,742.95	Increasing	60.1
2023–24	₹199.95	51.07	18,592.90	High	64.2
2024–25	₹260.56	55.02	24,739.50	Very High	67.0
2025–26	₹314.23	—	—	Very High	—

*RBI Financial Inclusion Index values are reported for financial years and are useful as a broad indicator of financial inclusion. PMJDY and overall digital-payment figures should be cited from the corresponding Government/RBI releases when finalising the research paper.

The secondary data clearly demonstrate that UPI has experienced sustained growth in both transaction volume and monetary value between 2021–22 and 2025–26. The more than five-fold increase in transaction volume indicates widespread adoption of UPI among consumers, merchants and businesses. The continuous increase in transaction value further suggests that UPI is increasingly being used not only for small-value retail payments but also for a broader range of economic transactions. Therefore, the trend supports the importance of examining UPI as a significant component of India's digital economy.

Objective 3: *To identify the major challenges and opportunities associated with the increasing adoption of UPI in Karnataka.*

Table: Challenges and Opportunities of UPI.

Sl. No.	Indicator	Numerical Fact	Implication
1	UPI transaction growth	24,161.69 crore transactions in 2025–26	Indicates very high adoption and opportunity for digital economic growth
2	UPI transaction value	₹314.23 lakh crore in 2025–26	Shows UPI's increasing importance in economic transactions
3	UPI QR infrastructure	Around 61 crore active UPI QR codes by September 2024	Expands digital-payment opportunities for merchants and MSMEs
4	UPI monthly record	16.6 billion transactions in October 2024	Demonstrates large-scale consumer and merchant adoption
5	Digital-payment fraud	29,082 card/internet fraud cases involving ₹1,457 crore in 2023–24	Highlights cybersecurity and fraud-related challenges
6	Digital-payment fraud,2024–25	13,516 card/internet fraud cases, involving ₹520 crore	Shows continuing need for stronger fraud prevention
7	Failed UPI transactions	RBI requires compensation where eligible failed UPI transactions are not auto-reversed within the prescribed period	Highlights the importance of reliability and customer protection
8	User security	UPI requires a 4–6 digit UPI PIN for transaction authorisation	Strengthens transaction security, but digital awareness remains important

The RBI reported that card/internet frauds accounted for 29,082 cases involving ₹1,457 crore in 2023–24, while in 2024–25 there were 13,516 cases involving ₹520 crore. These figures illustrate that cybersecurity and fraud remain important challenges even as digital payments expand.

Interpretation

The secondary data indicate that the rapid expansion of UPI creates significant opportunities for financial inclusion, merchant digitalisation, MSME development, faster transactions and greater formalisation of economic activity. At the same time, cyber fraud, digital literacy, transaction failures, privacy and security remain important challenges. The RBI has reported that digital-payment frauds are predominantly concentrated in the card/internet category by number, while NPCI continues to strengthen UPI security, user-information protection and complaint-resolution mechanisms.

FINDINGS

- UPI transactions have recorded substantial and continuous growth in India, increasing from 4,595.61 crore transactions in 2021–22 to 24,161.69 crore transactions in 2025–26.
- The value of UPI transactions increased from ₹84.16 lakh crore in 2021–22 to ₹314.23 lakh crore in 2025–26, indicating the growing importance of UPI in India's economic transactions.
- The growth of UPI has contributed to the expansion of digital financial services and financial inclusion by making banking and payment services more accessible to consumers and small businesses.
- UPI has significantly improved transaction convenience, speed and efficiency, reducing dependence on physical cash for routine consumer and business transactions.
- The increasing adoption of UPI has created opportunities for MSMEs, retailers, street vendors and small businesses to accept digital payments and participate in the formal digital economy.
- Karnataka has emerged as an important state in India's UPI ecosystem, supported by its strong IT infrastructure, banking network, startups, MSMEs and digitally aware population.
- Recent UPI regulatory and technological developments, including higher transaction limits, UPI Lite, delegated payments, credit-linked UPI and enhanced security mechanisms, have expanded the potential applications of UPI.
- Despite its rapid growth, cyber fraud, digital illiteracy, transaction failures, privacy concerns and dependence on internet connectivity remain important challenges to the wider adoption of UPI.
- The study finds that the increasing volume and value of UPI transactions indicate a significant shift from cash-based payments towards a digital payment-oriented economy.
- Overall, UPI has emerged as an important component of India's digital economic infrastructure, with considerable potential to support financial inclusion, business efficiency, economic formalisation and digital economic growth, particularly in technology-oriented states such as Karnataka.

Suggestions of the Study

- The government and financial institutions should strengthen cybersecurity measures to protect UPI users from fraud, phishing and unauthorised transactions.

- Digital financial literacy programmes should be expanded, particularly among rural people, senior citizens, small traders and first-time digital-payment users.
- Special training and awareness programmes should be provided to MSMEs, retailers, street vendors and small businesses to encourage safe and effective use of UPI.
- Banks and payment service providers should establish faster and simpler mechanisms for resolving failed transactions, unauthorised payments and refund-related complaints.
- UPI users should be regularly educated about safe digital-payment practices, particularly regarding the protection of UPI PINs, OTPs and banking credentials.
- UPI services should be made more inclusive and user-friendly for people with limited digital literacy and those living in economically and technologically disadvantaged areas.
- Policymakers should ensure that UPI remains affordable for consumers and small merchants and should avoid measures that could discourage the wider adoption of digital payments.
- Banks and fintech companies should develop innovative UPI-based services for MSMEs, agriculture, e-commerce and local businesses while maintaining adequate consumer protection.
- The Government of Karnataka should promote UPI adoption as a means of strengthening financial inclusion, digital entrepreneurship and formalisation of business activities across the state.

CONCLUSION

The present study concludes that the **Unified Payments Interface (UPI)** has emerged as a major driver of India's digital economic transformation. During the study period from **2021–22 to 2025–26**, UPI transactions increased substantially in both volume and value, reflecting the growing acceptance of digital payments among consumers, merchants, businesses and financial institutions. The rapid expansion of UPI has improved transaction speed and convenience, reduced dependence on cash, supported financial inclusion and encouraged the formalisation of economic activities. UPI has also created significant opportunities for MSMEs, retailers and small businesses by enabling easy and low-cost digital payment acceptance. Karnataka, with its strong technological infrastructure, banking network, MSME sector and digitally active population, has significant potential to benefit from the continued expansion of UPI. At the same time, challenges such as cyber fraud, digital illiteracy, connectivity issues, transaction failures and privacy concerns need to be addressed effectively. Recent regulatory and technological developments have further expanded the scope of UPI and strengthened its role in the digital economy. Overall, UPI has moved beyond being merely a payment mechanism and has become an important component of India's financial, commercial and economic infrastructure. Continued investment in digital infrastructure, cybersecurity, financial literacy and inclusive payment services will be essential for ensuring that the benefits of UPI reach all sections of society and contribute sustainably to India's economic development, particularly in Karnataka.

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